

REMARKS

This application has been reviewed in light of the Office Action dated November 29, 2005. Claims 17, 18 and 20 - 22 are now presented for examination. Claims 1 – 16 and 19 have been canceled. Claims 17 and 18 have been amended to more particularly point out and distinctly claim the subject matter regarded as the invention. Claims 21 and 22 have been added to provide the applicants with a more complete scope of protection for their invention. Support for these amendments is detailed in the remarks that follow. No new matter has been added.

Claims 17, 18, 21 and 22 are independent.

Favorable review is respectfully requested.

The §102 rejection:

Claim 17 has been rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by Kudelka et al. U.S. Patent Application Publication US 2001/0016398 A1.

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Claim 17 has been amended to more particularly point out and distinctly claim the subject matter applicants regard as their invention. Specifically, claim 17 has been amended to more particularly claim that the present invention provides a trench structure where an upper portion of the trench has a different polygonal cross section than a lower portion of the trench and the lower polygonal cross section has a greater number of sides than the upper polygonal cross section. Support for this amendment is found at least in paragraphs 0018 to 0021 and Figure 11B. No new matter has been added.

As illustrated in Figure 16 and discussed in paragraph 0054 of the reference, Kudelka is directed to an anisotropic etch to form a bottle shaped trench capacitor with rectangular trenches. (see paragraph 0013) There is no teaching in Kudelka to form a trench either with a polygonal cross section having greater than 4 sides or with an upper portion of the trench having a different polygonal cross section than a lower portion of the trench. Accordingly, applicants respectfully submit that independent claim 17, as amended, is not anticipated by the reference.

The §103 rejection:

Claims 18 – 20 have been rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Kudelka et al. U.S. Patent Application Publication US 2001/0016398 A1 as applied to claim 17 above, and further in view of Schrems et al. U.S. Patent No. 6,200,873 B1.

Claim 18 has been amended to more particularly point out and distinctly claim the subject matter applicants regard as their invention. Specifically, claim

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18 has been amended to more particularly claim that the present invention provides a trench capacitor structure where an upper portion of the trench capacitor has a different polygonal cross section than a lower portion of the trench capacitor and the lower polygonal cross section has a greater number of sides than the upper polygonal cross section. Support for this amendment is found at least in paragraphs 0018 to 0021 and Figure 11B. No new matter has been added.

As illustrated in Figure 16 and discussed in paragraph 0054 of the reference, Kudelka is directed to an anisotropic etch to form a bottle shaped trench capacitor with rectangular trenches. (see paragraph 0013) There is no teaching in either Kudelka or Schrems to form a trench capacitor either with a polygonal cross section having greater than 4 sides or with an upper portion of the trench capacitor having a different polygonal cross section than a lower portion of the trench capacitor. Accordingly, neither Kudelka nor Schrems, nor a combination thereof renders obvious claim 18 as amended. Since claim 20 depends from claim 18, and since claim 18 is now believed to be allowable, then claim 20 is believed to be allowable as well. Claim 19 has been canceled thereby rendering its rejection moot.

Summary:

In view of all the preceding amendments and remarks, it is respectfully requested that any objections or rejections to this application be reconsidered and withdrawn. Further action with respect to the present application is earnestly solicited. If the Examiner finds this application is deficient in any respect, the Examiner is invited to contact the undersigned at the Examiner's earliest possible convenience.

For the foregoing reasons, allowance of the claims is respectfully solicited.

Respectfully submitted,
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